

Climate Policy Processes,
Local Institutions, and Adaptation Actions:
Mechanisms of Translation and Influence*

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* Paper prepared for the IHDP meetings, Bonn, Germany - April 27-30, 2009

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Abstract

This paper focuses on the experience of the national-level adaptation planning efforts and the lessons that can be derived for more effective adaptation from an examination of local governance of development and natural resources. After examining national level adaptation plans, particularly the NAPAs, the paper analyzes the range of institutional instruments and relationships visible in contemporary decentralization reforms. The analysis derives four important lessons for adaptation planning, with special attention to the articulation between local and national level adaptation processes. The paper underlines a) the diversity of local institutions and b) adaptation strategies, and identifies factors that promote c) greater accountability and d) greater equity in national/local relationships.

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1. Introduction

Over the past few years, research on climate change has made clear the lasting impact of ongoing climate shifts and the need for greater attention to adaptation to climate change (O'Neil and Oppenheimer 2002). Greenhouse gas emissions, particularly for carbon dioxide, will lead to climate change that will be "largely irreversible 1000 years after emissions stop" (Friedlingstein and Solomon 2005, Solomon et al. 2009: 1704, but see NRC 2005). The urgency of preparing to adapt to the effects of committed climate change has led to an increasingly large body of work on historical and future adaptation strategies (Adger et al. 2007). Yet, the state of the literature on adaptation remains remarkably sparse in comparison to that on climate impacts and mitigation of emissions.

Much of the available scholarly literature on adaptation has used a case-based approach to outline and describe how social groups in different parts of the world have adapted to climate and other environmental impacts (Adger 1999, Batterbury and Forsythe 1999, Berkes and Jolly 2001, Reid and Vogel 2006). The policy literature on the subject, on the other hand, has focused primarily on international agreements, policy initiatives, and funding flows needed to facilitate adaptation. Some of this literature has also examined the national policies needed to meet climate impacts. The existing literature has thus advanced the understanding of how people in specific locations have adapted to climate risks and at the same time contributed to filling the enormous gap that remains to be met to address future climate impacts. Unfortunately, however, few ongoing policy conversations have drawn upon the fine-grained scholarly work on adaptation.

One explanation for this gap may be attributed, of course, to the two different worlds in which policy and scholarly worlds are alleged to exist (Lomas 2000). But part of the reason likely also lies in the fact that existing writings on climate adaptation have not adequately emphasized the need to synthesize, compare, and frame available empirical knowledge about adaptation in ways that appeal to policy needs.

On the other hand, there are many areas in which emerging climate adaptation policies need to be informed by available empirical evidence. For example, it is unclear that developing countries at risk from future climate impacts have developed adaptation strategies keeping implementation needs in view. Existing National Adaptation Programmes of Action (NAPAs) -- developed by more than forty least developed countries -- are for the most part a listing of prioritized adaptation needs and projects. They do not examine how to mobilize relevant actors and resources, how to coordinate adaptation efforts across different agencies and sectors, how to locate the planning and implementation efforts related to adaptation, or how to implement identified adaptation projects locally.

This paper seeks to contribute toward efforts to translate climate policy processes at the national level into local adaptation actions. There is an urgent need to understand national policies on adaptation through a local lens and through an analysis of the relationship between different levels of strategic implementation to ensure effective adaptation to climate risks. Because climate impacts vary locally and will continue to do so, adaptation to climate impacts will also necessarily be locally variable. At the same time, higher-level coordination of locally varying adaptive responses is also essential if adaptation efforts are to be broadly effective. Developing locally specific strategies, articulated and coordinated through national policy mechanism, therefore, assumes paramount significance in the context of adaptation to climate risks and impacts. The impact of the existing scholarship on adaptation can be enhanced through

greater attention to effects that specific linkages across different levels of policy and decision making produce. Research on adaptation can thus usefully inform how different mechanisms to articulate local actions and national policies can be used to improve institutional and adaptive capacities at the local level.

As a first step toward such a contribution, the paper begins with an analysis of the National Adaptation Programmes of Action (NAPAs). The NAPAs have now been completed by almost all the Least Developed Countries (LDCs). After emphasizing the main areas in which these Programmes fall short in terms of a practical strategy to connect the local and the national, the paper examines how scholarly writings on decentralization of development and natural resource governance have addressed similar problems in connecting the national and the local level. Policy-oriented scholarly work on decentralized development and natural resource governance can usefully inform future adaptation efforts because scholars and decision-makers interested in adaptation face similar conceptual and practical challenges.

Conservation and development projects are typically place specific – differences in characteristics of locations, therefore, demand locally specific planning, intervention, management, and governance. Differences between places in terms of their resource endowments, social and economic features, and political and cultural characteristics mean that blueprint approaches to development and conservation often miss the most important opportunities for improvements in outcomes. Analogously, approaches that adapt interventions to territorially specific and relevant requirements have a greater likelihood of being effective.

The chief elements of the ensuing argument can be summarized. Major paths through which national level plans influence local development and resource governance pass through different kinds of local institutions. These institutions are used by governments, donors, and NGOs in a variety of locations and ways to pursue development and resource governance objectives. The experience of these institutions and their relationship with national level policies forms a fertile source to inform future adaptation policies and how they can be translated into local actions and outcomes. An examination of this experience provides useful knowledge about how to improve adaptation-related policy making.

2. National Adaptation Programs of Actions

The National Adaptation Programmes of Action (NAPAs) are the most prominent national-level effort to identify priority areas in which adaptation to climate change is necessary. As such, they are a useful basis for trying to understand how national level efforts to understand and analyze adaptation needs have worked in practice.

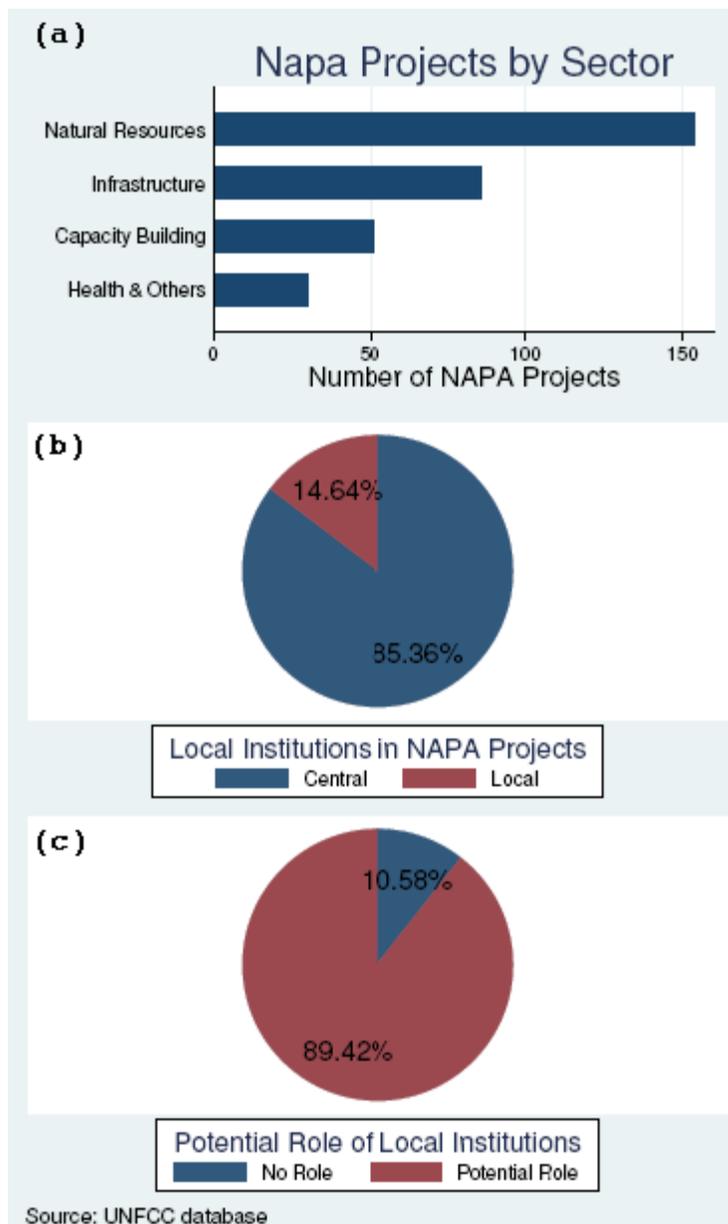
NAPAs were mandated at the 2001 Marrakesh Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC 2001). NAPAs highlight the highest priority areas for adaptation interventions as seen by important stakeholders in the relevant countries: these include relevant government ministries and departments, non-government organizations, and scholars and research institutions engaged with climate change. They showcase the existing international institutional framework through which nation states are developing adaptation plans (Huq and Reid 2004; Pielke 2005). Thus the experience of the NAPAs provides an opportunity to develop more general lessons so that future adaptation plans can serve the interests of those most vulnerable to climate impacts. A few other countries have also undertaken national adaptation planning, but these efforts have been prompted by analyses of adaptation needs at a country level rather than through a cross-country perspective. Further, actual implementation of adaptation projects has been limited or non-existent in most cases.

The NAPAs, in identifying priority areas for adaptation interventions, have tried to consider the local nature of adaptation as well as the need for external support in effective local adaptation. The local nature of adaptation was recognized in the very design and process of crafting the NAPAs. The ministries of environment and other agencies that developed the Programmes did so in consultation with many local NGOs and institutions. Based on these consultations, the NAPA planners collectively identified nearly 321 adaptation projects according to the available NAPA documents (figure 1). In arguing for the need for additional support for adaptation, they also recognized the likelihood that future adaptation challenges are likely to overwhelm local capacities of poorer groups who might bear a significant proportion of the burden of climate impacts.

Figure 1 indicates that the largest number and proportion of adaptation projects are focused on sectoral issues related to improvements in natural resources related activities such as in agriculture, forestry, water, and in the development of infrastructure – close to 75% of all identified projects. Nearly all projects identified in the NAPAs focus on rural areas: despite growing urbanization less than 5% of the projects focus on urban impacts of climate change or on urban adaptation issues.

Although a detailed analysis of the projects in the NAPA reports cannot be carried out given the limited available information about them, it is still possible to make basic comparisons that point to the ways the policy process has worked in different countries. Most NAPA projects seem to be aimed at building national governments' capacities rather than strengthening the capacity of local actors and institutions to undertake adaptation (Osman-Elasha and Downing 2007). Figure 1b shows that more than 85% of all priority projects as identified by the NAPAs pay little to no attention to local institutions.

Figure 1: NAPA projects and their distribution



The NAPAs have paid minimal attention to local institutions or to the relationship between local and higher level institutions – even for projects that are focused on agriculture, water, forest management, fisheries, small scale infrastructure, and capacity building at the local level. This lack of attention to the implementation of adaptation projects at the local level is in evidence despite the fact that the NAPA process required widespread consultations with NGOs and other civil society actors. This analysis of the information on high-priority projects identified through the NAPA process in the least developed countries shows the substantial ground that still has to be covered by national planning processes on adaptation. Not only do most projects not incorporate local communities and institutions in adaptation plans, little evidence of consultation and coordination between the local and national level can be seen in the descriptions of the selected high-priority projects.

The NAPAs constitute at best a beginning of the long process through which national level planning for adaptation will begin to be put into place and linked to local adaptation processes. In light of the early stage of national and international planning on adaptation, it is critical to take into account two major lessons of our analysis of national adaptation planning.

Perhaps the most important lesson of the above analysis is that national planning for adaptation needs to be linked far more closely with local institutions than has been the case. To create and improve such linkages, it will be necessary first to identify and strengthen the local institutions that play a key role in adaptation to climate variability and change. It will also be necessary to facilitate stronger connections across sectors in which adaptation is planned, and between national and local institutions involved in planning and implementation. Indeed, without closer linkages between national and local institutions, national efforts to plan for adaptation are likely not to facilitate adaptation at the local level where it matters most for the lives of poor and vulnerable peoples. Effective adaptation will require that national plans incorporate local knowledge and histories of adaptation into future efforts.

A second important lesson of the NAPAs concerns the need for adaptation planning to be more closely integrated with ongoing development and natural resource management plans. Such plans are already working through many different kinds of local institutions in different parts of the world. Ignoring the lessons of existing development and resource governance policies, especially as such lessons are pertinent to adaptation interventions, will be to reinvent the wheel. As the reality of climate change is recognized more widely, the need to integrate adaptation to climate change into development and conservation projects will become more urgent – coordination among these diverse functions of local institutions and the mechanisms through which such coordination can be achieved will also therefore become more important. To protect the interests of the poorest and most vulnerable populations, the role of local institutions in adaptation is undeniable – this important role is one major reason the linkages of local institutions and the effects of different kinds of linkages needs to be considered more fully and frontally.

3. Decentralized Governance of Natural Resources and Development: Institutional Influences

The most recent efforts to decentralize natural resource governance have been going on at least since the mid 1980s (Agrawal and Ribot 1999). Beginning in this period, decentralization attracted widespread attention as a policy choice and a solution to the problems confronting state-led centralized attempts to conserve the environment. There is certainly debate over the scope, extent, and depth of the reforms that have occurred since the late 1980s. Positions adopted by the participants in this debate range from those for whom nothing much has changed (Ribot 1999, Wunsch 2001) to those who see the world of governance to have undergone a major transformation (Bardhan 2002, Campbell 2003, Noel 1999, Rosenau 1999). Much of the debate's heat may be explained by variations in the regional and territorial focus of the reforms that are studied and the natural resources that are the focus of attention. But it is also true that governments in many countries have demonstrated at least some commitment to decentralized management. This commitment to decentralization covers most natural resources that play an important role in the day-to-day subsistence of many poor people: forests, coastal and inshore fisheries, rangelands, and irrigation water among them.

Nonetheless, there is great diversity in the nature of decentralization reforms across locations. There are variations in the extent and nature of decentralization of resource governance and development interventions. The local actors that gain decision making powers differ. The actions domains in which they can make decisions are dissimilar from one case to another. And, certainly, the reasons for decentralization reforms are often distinctive in relation to a given context.

But all decentralization reforms have at least one common goal: to create mechanisms that establish formal linkages between central governments and localities. These mechanisms can link central authorities to localities in two ways: They can create new types of relationships between central agencies and existing local institutions. Thus, for example, decentralization initiatives related to improved governance often channel different kinds of support to existing rural councils or local governments. Similarly, the Joint Forest Management program in India often selected local forest management committees and recognized them formally as partners. But central authorities can also establish connections with localities by founding new institutional structures.

Decentralization reforms have led to highly variable outcomes – some intended, others unintended. They have sometimes reinforced existing inequalities and social heterogeneities and at other times undermined them. They sometimes strengthen local autonomy, and at others lead to stronger integration of local units of governance into national plans. The formal relationships and local-central partnerships sometimes successfully extend the capacity of governments to manage resources sustainably and equitably. At other times, they are ineffective in both these objectives, and they may even undermine local institutions. The variations in the outcomes of different decentralization reforms provide a rich tableau of experiences to be analyzed in relation to adaptation policies. In reviewing the different arenas in which decentralization reforms have occurred, we are interested less in establishing the determinants of success and failure – and more interested to understand the means through which local actions and collective outcomes are connected to central policies and institutions.

The available literature on decentralization reforms related to resource governance outlines how governments have globally sought to influence local outcomes in fisheries, forestry, irrigation, and range management. Four major conclusions, thematically relevant to climate adaptation policies, can be drawn from examining how local-central articulation has occurred in relation to decentralized resource governance:

- **Diversity of local actors and decision makers:** Decentralization reforms have transferred decision making authority to, and relied upon a number of different kinds of decision makers at different levels of decision making to implement reforms;
- **Diversity in mechanisms of local-central articulation:** There is also a large variety of institutional, informational, and financial mechanisms through which to create durable relationships between local and higher level organizational structures – these have different implications for local institutional capacity;
- **Institutional relationships and local autonomy:** Decentralization initiatives sometimes reduce local autonomy and at other times enhance it – the specific political effect is usually driven by institutional relationships encoded in decentralization policies; and finally,
- **Institutional relationships and equity:** The nature of accountability relationships, information sharing, and levels of access to institutions have a key role to play in shaping whether decentralization relationships will lead to more or less equitable outcomes.

3.1 DIVERSITY OF LOCAL ACTORS AND DECISION MAKERS:

Local governance of natural resource management is characterized by the involvement of a great number of actors whose interests differ. The differences in the interests of local actors is on the one hand a function of the level at which decentralized decision making occurs: village or community, district, provincial, or regional. Similarly, the identity of the local actors and the domain of their functioning – private, civic, and public – also obviously shapes their interests, particularly at the local level. At the local level, the chief concern of this paper, decentralization may lead to greater decision making responsibilities on the part of community councils, local governments, non-government organizations, cooperatives, resource user committees in different sectors, and in some cases, even private market-based organizations. At higher levels, decentralization reforms tends to confer greater powers and responsibilities for decision making typically for public rather than civic or private agencies and actors – whether these are elected bodies or line agencies of central ministries and departments.

The diversity of local decision makers who gain authority to make decisions as a result of decentralization is instructive for adaptation processes in the first instance because it indicates that there is no single best solution to enhance local capacities to undertake adaptation. But an examination of the interests and relative strengths of decision makers in different domains also indicates that the goals of decentralization reforms often shape choices about appropriate partnerships at the local level and at the same time influence the degree of local flexibility in decision making.

Formal vs. Informal Institutions

Creating new civil society institutions or public organizations to allocate resources, for example, can help sidestep existing unequal political relationships in a given context and thereby help improve equity in resource allocation through local organizations. But this may occur at the expense of the effectiveness of

the local organization. The contrasting strengths of different kinds of civil society institutions around irrigation in Yemen illustrate this point (Agrawal and Perrin 2009).

Spate and masque irrigation are the two main forms of irrigation in Yemeni highlands.² The basic principle for allocating water is that landowners located upstream in a wadi irrigate their lands before those located downstream. Tribal structures and decision makers are often responsible for managing the allocation of water. These structures are well connected to other local institutions, but less so with higher-level or central institutional arrangements and decision makers. A number of recent irrigation projects have opted to establish new water users' associations and groups. Two different World Bank-assisted projects, for example, have sought to improve spate irrigation and soil and groundwater conservation by bypassing the sheikhs and other decision makers in tribal water management institutions in favor of new water management structures.³

This strategy has both advantages and disadvantages. Traditional institutions are generally better connected to local populations, work to represent local interests and concerns, and mediate between external interventions and local communities. At the same time these institutions have limited ability to change existing rules for allocating water or mobilizing large-scale support. They are also less relevant in helping allocate water or maintain irrigation structures in areas close to formal administrative centers. Finally, they are not very effective in repairing large-scale damages or undertaking preventive measures to reduce problems resulting from flooding or droughts. This is because large scale action requires coordination and resources beyond what is available to local traditional institutions.

In contrast, new water users' associations and groups as established by the World Bank assisted projects seek local involvement on a more equitable basis instead of favoring landowners in upper catchments of valleys and rivers. They also enjoy formal recognition and the capacity to change rules formally. However, they are not well connected to communities or households, nor do they enjoy the same legitimacy as do tribal leaders and institutional structures.

Deconcentration vs. Devolution

Similar tradeoffs between effectiveness, representativeness, and democratic functioning mark the decision to decentralize powers to elected local governments vs. local administrative bodies. The common distinction that is often drawn in the large literature on decentralization between devolution and deconcentration (or political/democratic vs. administrative decentralization) often turns on whether the local actors empowered through reforms are elected governments or administrative branches of central ministries and departments. However, the real question in the effective decentralization of decision making powers may be not so much whether it is elected or administrative bodies that partner with central bodies but whether decentralization reforms allow newly empowered local actors to exercise the power they are supposed to have gained.

² Under spate irrigation, elementary stone or earthen bunds together with diversion canals are used to divert flood waters from riverbeds or valleys (*wadis*) into fields. Runoff can also be harvested from small surfaces and diverted by gravity directly onto fields using ditches (*masques*).

³ The specific projects are the Groundwater and Soil Conservation Project (number P074413, for US\$ 40 million, 2004-11 and the Irrigation Improvement project (number P062714 for US\$ 21.3 million, 2001-08).

Two examples illustrate this variation. An early effort to decentralize forest governance in India occurred in Kumaon in 1931 when local residents resisted the efforts of the colonial government to convert the region's forests into state-owned resources. As a result of local protests, the central government agreed to permit the formation of elected forest councils in each village in the region. More than 3000 such councils exist today, and each has the authority to manage small plots of forests close to their village (Agrawal 2005). They have effectively limited deforestation in the region, and also met many of the demands of local users for different subsistence products from forests (Somanathan 2009).

The decentralization reforms in the forest sector in much of East and West Africa stand in contrast (Ribot 2002: 17-25). Referring to decentralization of resource governance as "fettered reforms" Ribot outlines how the extent of local decision making powers is greatly limited in many countries. In Mali, for example, elected local governments have the rights to make decisions related to forests, but they do not have much forest over which to make decisions. In Senegal, although local governments are elected, they are still upwardly accountable to higher level forest authorities. The Ugandan case is similar as that of Mali - elected local governments have substantial powers to make decisions, but virtually no forests (Ribot et al. 2006).

Sectoral administrative bodies - for example, local units of the forest department - on the other hand have substantial decision making powers in all the above countries (India, Mali, Senegal, and Uganda) regarding forests. They are empowered to make decisions about where, what, how much, and how to harvest, and whether to allocate any benefits to local populations. In addition, they are also often responsible for monitoring whether forests are being used in accordance with existing laws and have the capacity to impose sanctions on users that break laws.

In some countries, governments and international donors have taken recourse to non-government organizations (NGOs) to make decentralization more effective. NGOs are often able to provide substantial managerial inputs into decentralization efforts, promote participation, and gain local support (Utting 1999). But few NGOs are locally accountable to those on whose behalf they act, and it can be difficult to identify legitimate and effective NGOs from those that are conduits for cash transfers.

As part of the formal administrative apparatus, administrative bodies have greater decision-making powers than elected local governments or NGOs - but they suffer in comparison with respect to their ability to elicit participation, and in the extent to which they are accountable to local populations. Chiefs and informal power brokers at the local level are often well connected to local populations, but may not be interested in pursuing more equitable resource allocation. Elected local governments enjoy greater legitimacy, and where elections are fair and competitive they may also be more accountable to their constituents. But without broad participation, effective decision making powers, and capacity to implement reforms, they will turn out to be ineffective. Similarly, NGOs typically enjoy legitimacy and local support but even the best functioning NGOs remain unaccountable to local populations.

The above discussion suggests that to overcome the gaps in capacity, legitimacy, and accountability, partnerships with local actors have to be chosen with attention to the specific advantages they confer and building multi-actors partnerships may be key to address adaptation needs at the local level. Adaptation policies aiming to create effective partnerships will need to work with a variety of local actors, and use the strengths of different actors to promote specific goals related to design and implementation of

adaptation projects, participation of and accountability to local users, and monitoring and sanctioning related to implementation.

3.2 DIVERSITY IN MECHANISMS OF LOCAL-CENTRAL ARTICULATION:

Studies of decentralized resource governance also document the many different ways in which central policies articulate with and integrate existing and new local institutions into decentralization policies and legal frameworks. The above discussion of the diversity of local actors suggested that there are no blueprint approaches to decentralization reforms upon which policy makers interested in effective adaptation can draw so as to make adaptation widely effective. All the goals of decentralization – whether it is improving local capacity, promoting efficient implementation, promoting the legitimacy of new or traditional institutions, integrating local institutions better in administrative processes, increasing the accountability of decision makers to their constituents, or enhancing participation and local support for new projects – depend on specific institutional and resource transfer mechanisms. The table below, based on a survey of nearly 50 cases of decentralized resource governance related to forests, irrigation, rangelands, and fisheries highlights the diversity of articulation mechanisms used by central governments to link local actors with central decision makers.

Table 2: Mechanisms to connect local institutions with higher level decision makers and policies

Mechanisms to articulate local and central institutions	Effects of mechanisms
<u>Information mechanisms</u> Advice Audits Mechanisms for reporting corruption Activity reports Management plans	-Improve transparency; -Improve coordination; -Provide local institutions and actors better knowledge for making decisions; -Increase accountability of decision makers
<u>Human resource and capacity building mechanisms</u> -Appointment of officials -Performance monitoring -Training -Education -Exchange programs	-Increase ability to make decisions and carry out plans -improve quality of planning and implementation at local level -promote interactions among local institutions
<u>Institutional change mechanisms</u> -Creation of new rules -Authority to monitor, sanction, adjudicate Elections	-create accountability relations between decision makers at local level and their superiors as well as lower level constituents; -Protect/improve resources and local governance strategies -Reduce free riding
<u>Financial mechanisms</u> -Accounting reports -Funds transfers -Taxing authority	-Increase local autonomy -Change dependency relationships

Clearly, central governments have used a variety of mechanisms to connect local decision making bodies into formal mechanisms of rule. These include technical, monetary, and other resource transfers, rules to integrate traditional or new institutions into legal frameworks, creation of incentive systems, shifts in accountability relations, changes in information flows to affect monitoring and reporting, and accounting and audit mechanisms.

3.3 INSTITUTIONAL RELATIONSHIPS AND LOCAL AUTONOMY

In an important paper on participation and decentralization, Blair (2000) refers to the ideal of public accountability in decentralized democracies: Administrators should be accountable to elected officials who in turn should be accountable to the public through elections. This ideal holds only debatably even in western, long-standing democracies where the relationships between administrators and elected representatives as also those between the voting public and elected politicians is beset with agency problems and information asymmetries.

For effective adaptation, local identification of climate risks and particularly for developing strategies to address risks is essential as has already been remarked. Effective planning for adaptation requires both sufficient capacity and autonomy – however decentralization despite its name does not always lead to greater local autonomy.

Questions of agency relationships and the direction of power flows are particularly important in the case of decentralized center-local relationships. Because decentralization of natural resource governance has

fares poorly in many countries, a large number of scholars have seen in decentralization a means for modern states to create formal linkages that extend projects of regulation and control over local populations and institutions. Samakande et al (2004), talking about irrigation in Zimbabwe, state that smallholder irrigation is a “political tool to control the poor masses” (2004: p.1075). Hoffman (2004) illustrates how the Nigerian federal government extended its reach into localities through the creation of local governments. Meinzen-Dick and Raju (2002) suggest that Indian decentralization does not result in autonomous government by local resource users in the same way as in self-governing systems. Instead, state involvement often constrains the institutional autonomy of user groups.

Decentralization reforms constrain local autonomy and capacity particularly when they are accompanied by upward forms of accountability. New forms of reporting outcomes and methods of monitoring without effective delegation of decision-making capacities are one way to create such upward accountability. For example, Mongolia’s 1994 land law requires local governments to submit annual Land Use Reports on progress to the central government (Fernandez-Gimenez and Batbuyan 2004). The Government of Uganda devolved activities and powers, including developing and enforcing bylaws, collecting information, and participating in the licensing process to Beach Management Units, which are legally recognized by the 2003 Fish (Beach Management) Rules. Still, the local government approves Beach Management Unit rules and the central government monitors the annual performance of BMUs. Maikhural et al (2000) further illustrate the ways in which decentralization reforms may include reporting requirements that ensure upward accountability and transfers of funds from localities to the center. The Indian Reserve Authority requires village forest councils to submit proposals to received monetary payments for dead trees and outlines a process for the distribution of revenue from centrally controlled auctions, ensuring that even locally generated revenue accrues to both district and central government levels.

State interventions often ignore traditionally coordinated and regulated resource access, as both Thebaud and Batterbury (2001) and Singh et al (2005) document for pastures. Thebaud and Batterbury (2001), following Scott (1999) write that state “modernization projects” weaken traditional mechanisms. In Niger, pastoralists historically dug their own water sources, which allowed for local negotiation of pasture areas and limited the number of animals that could graze within the area. When the state introduced modern infrastructure, such as permanent cement wells and deep tube wells, traditional systems of governance were undermined and a system of open access emerged. Similarly, Singh et al (2005) showed how an external intervention of placing watering ponds in traditional rainy season pasture ignored local, traditional knowledge and undermined the local institutional system. In a review of SADC countries, Swatuck (2005) demonstrates a similar process of state governments undermining existing cooperation and conflict resolution mechanisms in the irrigation sector. Further, already empowered actors dominated new institution, resulting in the replication of previous power relations.

Two cases of decentralization policy from Indonesia’s fisheries sector provide an example of how government policies can both undermine and support local institutions (Satria and Matsuda 2004; Siry 2006). The 1979 Village Administration Law eroded traditional institutions and management norms (Siry 2006) as did the New Order’s Basic Provisions of Local Level Government Law (Satria and Matsuda 2004). However, the 1999 Local Autonomy Law encouraged traditional fishing community based decentralization policies (Satria and Matsuda 2004). Indonesia’s laws now seek to support and revitalize traditional management authorities (such as *alek pasie*, *malimau pasie*, *maliamu kapa*, *panglima laut*, *sasi*) and recognize local authorities and institutions, allowing for their adoption in local governance

policy (Siry 2006). Thornburn (2001) also notes that customary institutions in Indonesia survived colonial government, national structures, and regional trade networks; despite all of the different waves of external actors, Kei people in the case study area have maintained their livelihoods and social structures.

There are certainly successful examples as well in which decentralization leads to greater local capacity, cooperation between local and central decision makers, and improved local effectiveness. A certification program in the Philippines fisheries sector illustrates how new mechanisms can promote effectiveness. The Government of the Philippines addressed a lack of capacity, collaboration, and integration, limited financial sustainability, and weak law enforcement through a local government certification program (White et al 2006). The Government of the Philippines promoted local participation in coastal management and devolved responsibilities to local governments through the 1991 Local Government Code and the 1998 Fisheries Code, partially in response to donor and NGO support for Integrated Coastal Management. These new policies created new institutional roles for both national and local governments, resulting in an uncertain period of transition, where jurisdictional and legal responsibility was often unclear. In response, the Government of the Philippines developed a coastal resource management certification system to promote incentive strategies for local governments. Over 100 local governments have now implemented this certification system. Benchmarks for the first level of certification include: baseline assessment conducted, annual budget allocated, organizations for coastal resource management formed and active, multi-year coastal resource management and shoreline plan developed and adopted, and at least two best practices implemented. Provinces initially review certification and then it is reviewed by the Department of Environment and Natural Resources and a multi-sector agency body. Certification is considered a seal of approval for local governments and a motivating factor in improving coastal resources management (White et al 2006).

3.4 INSTITUTIONAL RELATIONSHIPS AND LOCAL EQUITY

If accountability relationships are key in shaping the balance of power between the center and the locality, and in allowing sufficient autonomy at the local level to ensure the development of plans that are responsive to local needs, the nature of local accountability relationships – particularly between decision making elite and office holders and their constituents are central to equity related outcomes of decentralization reforms. When local elite and decision makers are not locally accountable, the likelihood of elite takeover of resources and unequal allocation of available resources increases substantially.

Sarch's (2001) case study of Nigerian fisheries shows how traditional institutions may perpetuate elite capture of power and result in inequitable outcomes. For example, while British colonial authorities did not erode traditional systems everywhere, feudal tax systems were legitimized and maintained to strengthen the ability of colonial rulers to collect taxes. Mosse (2006) illustrates a similar situation for irrigation in India, explaining how traditional water systems were based around privileged access; consequently, recent attempts to base water user associations on traditional institutions replicate inequalities and asymmetric power relations. Araral (2005) also documents how donors and governments support systems based on patronage produced highly unequal outcomes "when they uncritically accept(ed) the primacy of irrigation bureaucracies, strengthened their capacities, and augmented these structures by promoting farmer participation at tertiary canals" (2005: p. 132).

Another important case in point is how financial transfers occur and are handled locally. Fiscal decentralization or local authority to collect and manage revenues can contribute to effective

decentralization. At the same time, some case studies illustrate how local political elites may capture financial resources. Rap (2007) illustrates the appropriation of funding following financial transfers to local water users' association in Mexico. Politically influential individuals used the water users' association as a political platform for political campaigns, including using water users' association funds to finance campaigns. While the goals of water users' association included efficient, effective, and optimal output of service delivery, the appropriation of association resources resulted in a lack of funding for basic water association activities and undermined the association's accountability and legitimacy (Rap 2007).

In contrast to the example from Mexico which suggests that local level financial management resulted in less efficient and less equitable management of local natural resources, a case study from the Philippines illustrates how the central government supported a successful irrigation transfer through an incentive system (Fujiie et al 2005). In the Philippines, the National Irrigation Administration (NIA), the national administrator of irrigation systems, faced a financial crisis following a reduction in foreign aid and the collapse of the international rice market. As a result, the NIA transferred management authority to local level irrigation association groups. The NIA awarded grants for larger repair work, supplied large machinery for repairs, and paid groups incentives for activities such as assuming responsibility for cleaning canals. In addition, the NIA implemented an incentive system in some irrigation systems to promote collection fee compliance: irrigation associations may keep 2% of irrigation fees if they collect 50% of the total invoices and 15% of the fees if they collect 90% of the fees. The associations that received these types of assistance and incentive programs were considered three times as active as the associations that did not receive these extra types of assistance (Fujiie et al 2005). In contrast to the example in Mexico, this Philippines case study provides strong support that government can positively affect local associations through specific interventions and policies.

4. Conclusion

Our examination of the suite of mechanisms and the range of outcomes related to the decentralized governance of resources and development suggests a number of lessons to improve the efficacy of adaptation planning at the national level. Two central points towards which this paper has worked is to highlight the need to promote the capacity of local institutions and improve the relationships between local and national level adaptation planning processes.

The analysis leads towards four key areas in which local adaptation institutions and national adaptation policies can be articulated for more effective adaptation:

- Increase local capacity through appropriate transfers of information, financial, and technical resources so that there is greater ability at the local level to plan for adaptation and to use local and indigenous knowledge of historical adaptations to build towards future adaptive strategies. This will also mean strengthening local capacities for planning, budgeting, implementation, and monitoring, and where feasible the ability to raise resources locally. Capacity building also requires coordination across a variety of local actors and decision makers since no single blueprint solution for partnering with a specific type of actor can address the multiple needs for effective local adaptation;
- Empower communities and local governments by increasing local autonomy so as to decentralize adaptation planning and implementation effectively. This recommendation has implications for the design of monitoring and information sharing mechanisms, resource transfers, and the nature of accountability relationships. At least for horizontal accountability, institutional mechanisms to make local administrative bodies accountable to elected local governments will be more effective in improving participation and making decision making responsive to local needs;
- Develop mechanisms for sharing information among local decision makers in different sectors, between general purpose local governments and local between local and higher level governance arrangements, and across decision making. Without such information sharing, coordination across different decision makers will prove difficult, and there will also be greater opportunities for corruption;
- Improve accountability of local decision makers to their constituents: Accountability relations are central to the balance of power between decision makers and those on whose behalf they make decisions. When decision makers are not accountable downwardly to citizens and users of services, the chances of elite capture and abuse of power also increase.

The examination of existing efforts to decentralize natural resource governance provides concrete information about the many different ways in which specific information, institutional, technical, and reporting mechanisms can be used to link national and local adaptation processes. Adaptation to climate change may be new. But the articulation between local and national adaptation processes can still be improved substantially by attending to the ways in which natural resource managers have sought to make national resource policies locally responsive and effective.

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